

**REMARKS/ARGUMENTS:**

Claims 1-37 and 39-40 are pending in this Application, claim 38 being canceled herein. In the Office Action dated June 28<sup>th</sup>, 2005, the Examiner has rejected claims 1-12 and 33 under 35 USC 101; claims 23-32 and 36 under 35 USC 112, first paragraph; claims 23-32 and 36 as anticipated by de Couasnon; and claims 37-40 as being anticipated by Lozano. The Examiner has further allowed claims 13-22 and 34-35.

**Rejections under 35 USC 101**

Claim 1 is amended to recite additional structure in cooperation with the storage media, and draws support from Figure 1 and page 9 line 31 to page 11 line 18 of the written description. Dependent claims 2-12 and 33 are amended to recite proper antecedent basis given the change to claim 1. These amendments are seen to overcome the rejection under 35 USC 101, leaving claims 1-12 and 33 in condition for allowance.

**Rejections under 35 USC 112**

Claim 23 is amended to additionally recite means for mapping and an antenna, which also draws support from Figure 1 and page 9 line 31 to page 11 line 18 of the written description, where the means for mapping may be the transmitter or receiver. Claim 24 is amended to remove those previously recited elements symbol detector and symbol modulator, in view of the changes to claim 23. Claim 32 is amended to recite proper antecedent basis for the receiver given the means for mapping in amended claim 23. These amendments are seen to overcome this particular rejection to claims 23-32 and 36.

**Rejections under 35 USC 102**

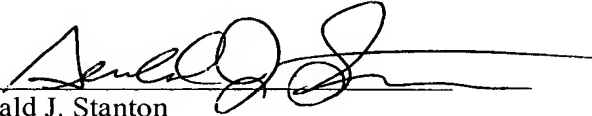
Claims 23-32 and 36: Claim 23 recites that each and every constellation point lies within one and only one of at least two  $(n-1)$ -dimensional real sub-constellations, where  $n=2M$  and  $M$  is an integer greater than one. De Couasnon is not seen to disclose such an interrelationship among its constellation points, and the Office Action does not assert that it does. The rejection is taken to imply that since de Couasnon discloses a signal constellation stored in a memory, and the memory may store any signal constellation whether or not disclosed, then it anticipates any claim to a constellation embodied in a memory. If the enforceable property interest of an issued claim 23 was that broad, the Applicant might agree that the claim is anticipated. It is not. All elements of a claim

define its metes and bounds, which also serve to distinguish it from prior art. Claim 23 does not recite storage means that is *capable* of storing a particular digital representation of the recited signal constellation, but (previous to the current amendment) recited storage means *for* storing that digital representation. To avoid ultimately inconsequential disagreements over semantics, and without admitting validity of the anticipation rejection to claim 23, the Applicant has amended claim 23 to recite that the storage means has the particularly recited digital representation stored upon it. This is seen to be unambiguously novel over de Couasnon because the embodied signal constellation is beyond the teachings of that reference. Claims 24-32 and 36 depend from claim 23, so each of claims 23-32 and 36 should now be in condition for allowance.

Claims 37-40: Claim 37 is amended to recite the storage means having stored upon it a digital representation, as similarly recited in amended claim 23 and detailed above. Claim 38 is canceled as it would be repetitive of elements now within amended claim 37. As with de Couasnon, Lozano unambiguously fails to disclose such a particularized signal constellation. For reasons detailed above with respect to claim 23, it matters not whether Lozano's receiver is capable of fitting a data sample to any hypothetical signal constellation, because claim 37 recites fitting a data sample to the signal constellation specifically recited in that claim. Claim 37 further recites storage means with that particularized digital representation stored upon it, representing a physical embodiment of the constellation. Lozano discloses neither with respect to the particular signal constellation recited in claim 37. Claims 37 and 39-40 are therefore seen to be in condition for allowance.

For the above reasons, the amended claims are seen to overcome each and every rejection, and the Examiner is respectfully requested to pass claims 1-37 and 39-40 to issue. The undersigned representative welcomes the opportunity to resolve any formalities or other matters that may remain via teleconference, at the Examiner's discretion.

Respectfully submitted:

  
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September 27, 2005  
Date

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Reply to Office Action of June 23, 2005



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September 27, 2005  
Date

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